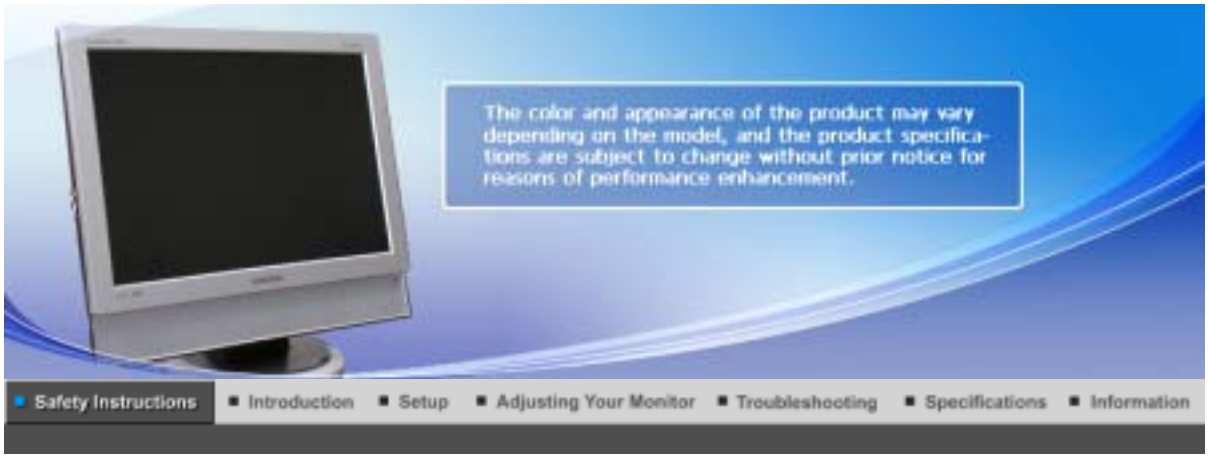
SyncMaster 960HD

Install Driver

Windows

Install Program

Natural Color


The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

Please read the following safety instructions as they are designed to prevent damage to property and harm to the user.

Warning / Caution

Failure to follow directions noted by this symbol could result in bodily harm or damage to the equipment.

Notational Conventions

Prohibited

Important to read and understand at all times

Do not disassemble

Disconnect the plug from the outlet

Do not touch

Ground to prevent an electric shock

Power

When not used for extended period of time, set your computer to DPMS.
If using a screen saver, set it to active screen mode.

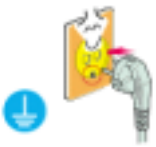
Shortcut to Anti-Afterimage Instructions

Do not use a damaged or loose plug.

- This may cause electric shock or fire.

Do not pull the plug out by the wire nor touch the plug with wet hands.

- This may cause electric shock or fire.



Use only a properly grounded plug and receptacle.

- An improper ground may cause electric shock or equipment damage.

Insert the power plug firmly so that it does not come loose.

- A bad connection may cause fire.

Do not excessively bend the plug and wire nor place heavy objects upon them, which could cause damage.

- This may cause electric shock or fire.

Do not connect too many extension cords or plugs to one outlet.

- This may cause fire.

Do not disconnect the power cord while using the monitor.

- A surge may be caused by the separation and may damage the monitor.

Do not use the power cord when the connector or plug is dusty.

- If the connector or plug of the power cord is dusty, clean it with a dry cloth.
- Using the power cord with a dusty plug or connector may cause an electric shock or fire.

Installation

Be sure to contact an authorized Service Center, when installing your monitor in a

location with heavy dust, high or low temperatures, high humidity, and exposed to chemical substances and where it operates for 24 hours such as at airports, train stations etc.

- Failure to do so may cause serious damage to your monitor.

Place your monitor in a location with low humidity and a minimum of dust.

- Failure to do so may cause electric shock or fire inside the monitor.

Do not drop the monitor when moving it.

- This may cause damage to the product or the person carrying it.

Install the monitor base in a showcase or shelf so that the end of the base does not protrude from the showcase or shelf.

- Dropping the product may cause damage to the product or the person carrying it.

Do not place the product on the floor.

- Take care, as someone, specifically children may trip over it.

Do not place the product on an unstable or small surface area.

- Place the product on an even end stable surface ,as the product may fall and cause harm to someone walking by, specifically children.

Keep any flammable objects such as candles, insecticides or cigarettes away from the product.

- Otherwise, this may cause fire.

Keep any heating devices away from the power cable.

- A melted coating may cause electric shock or fire.

Do not install the product in places with poor ventilation, for instance, a bookshelf, closet, etc.

- Any increase in internal temperature may cause fire.

Put down the monitor carefully.

- The monitor could be damaged or broken.

Do not place the monitor face down.

- This may damage the TFT-LCD surface.

The installation of the bracket must be done by a qualified professional.

- Installing the bracket by unqualified personnel may result in injury.
- Always use the mounting device specified in the owner's manual.

When installing the product, make sure to keep it away from the wall (more than 10 cm / 4 inches) for ventilation purposes.

- Poor ventilation may cause an increase in the internal temperature of the product, resulting in a shortened component life and degraded performance.

To prevent rainwater from running along the outdoor antenna cable and entering the house, be sure the outdoor portion of the cable hangs down below the point of entry.

- If rainwater enters the product, it may cause an electric shock or fire.

If you are using an outdoor antenna, be sure to put sufficient distance between your antenna and the electrical wires nearby so that they would not come in contact with each other in case the antenna is knocked over by strong wind.

- A knocked-over antenna may cause injury or an electric shock.

Keep the plastic packaging (bag) out of children's reach.

- The plastic packaging (bag) may cause suffocation if children play with it.

Clean

When cleaning the monitor case or the surface of the TFT-LCD screen, wipe with a slightly moistened, soft fabric.

Do not spray water or detergent directly onto the monitor.

- This may cause damage, electric shock or fire.

Use the recommended detergent with a smooth cloth.

If the connector between the plug and the pin is dusty or dirty, clean it properly using a dry cloth.

- A dirty connector may cause electric shock or fire.

Make sure to unplug the power cord before cleaning the product.

- Otherwise, this may cause electric shock or fire.

Unplug the power cord from the power outlet and wipe the product using a soft, dry cloth.

- Do not use any chemicals such as wax, benzene, alcohol, thinners, insecticide, air freshener, lubricant or detergent.

Contact a Service Center or Customer Center for interior cleaning once a year.

- Keep the product's interior clean. Dust which has accumulated in the interior over an extended period of time may cause a malfunction or fire.

Others

Do not remove the cover (or back).

- This may cause an electric shock or fire.
- Refer to a qualified servicing company.

If your monitor does not operate normally - in particular, if there is any unusual sounds or smell coming from the monitor - unplug it immediately and contact an authorized dealer or Service Center.

- This may cause electric shock or fire.

Keep the product away from places exposed to oil, smoke or moisture; do not install inside a vehicle.

- This may cause a malfunction, electric shock or fire.
- In particular, avoid operating the monitor near water or outdoors where it could be exposed to snow or rain.

If the monitor is dropped or the casing is damaged, turn the monitor off and unplug the power cord. Then contact a Service Center .

- The monitor may cause a malfunction, electric shock or fire.

Disconnect the plug from the outlet during storms or lightning or if it is not used for a long period of time.

- Failure to do so may cause electric shock or fire.

Do not try to move the monitor by pulling only the wire or the signal cable.

- This may cause a breakdown, electric shock or fire due to damage to the cable.

Do not move the monitor right or left by pulling only the wire or the signal cable.

- This may cause a breakdown, electric shock or fire due to damage to the cable.

Do not cover the vents on the monitor cabinet.

- Bad ventilation may cause a breakdown or fire.

Do not place water containers, chemical products or small metal objects on the monitor.

- This may cause a malfunction, electric shock or fire.
- If a foreign substance enters the monitor, unplug the power cord and contact the Service Center .

Keep the product away from combustible chemical sprays or inflammable substances.

- This may cause an explosion or fire.

Never insert anything metallic into the monitor openings.

- This may cause electric shock, fire or injury.

Do not insert metal objects such as chopsticks, wire and gimlet or inflammable objects such as paper and match into the vent, headphone port or AV ports or etc.

- It may cause a fire or an electric shock. If an alien substances or water flows into the product, turn the product off, unplug the power connector from the wall outlet and contact the Service Center.

If you view a fixed screen for an extended period of time, residual image or blurriness may appear.

- Change the mode to energy saving mode or set a screensaver to a changing picture when away from the monitor for an extended period of time.

Adjust the resolution and frequency to the level appropriate for the model.

- An inappropriate resolution may cause undesirable picture quality.

  19 inch Wide (48 cm) - 1440 X 900

Keep the volume at a comfortable level when using the headphones.

- Excessively loud volume levels may damage hearing.

Viewing the monitor continuously at a too close angle may result in damage to your eyesight.

To ease eye strain, take at least a five-minute break after every hour of using the monitor.

Do not install the product on an unstable, uneven surface or a location prone to vibrations.

- Dropping the product may cause damage to the product or the person carrying it. Using the product in a location prone to vibrations may shorten the lifetime of the product or may catch fire.

When moving the monitor, turn off and unplug the power cord. Make sure that all cables, including the antenna cable and cables connected to other devices, are disconnected before moving the monitor.

- Failure to disconnect cables may damage it and lead to fire or an electric shock.

Place the product out of children's reach, as they could damage it by hanging onto it.

- A falling product may cause injury to the person or even fatality.

When not using the product for an extended period of time, keep the product unplugged.

- Otherwise, this may cause heat emission from the accumulated dirt or degraded insulation, causing electric shock or fire.

Do not place your children's favorite toys or any other objects of interest on the product.

- Children may try to climb on the product to retrieve an object. The product could fall, causing causing injury or even fatality.

When you remove batteries from the remote, be careful that they are not swallowed by children. Keep batteries out of the reach of children.

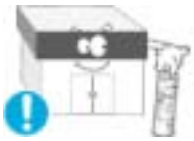
- If swallowed, see a doctor immediately.

When replacing batteries, place the batteries in the correct +/- polarity position as indicated on battery holder.

- Incorrect polarity may cause a battery to break or leak and could lead to fire, injury, or contamination (damage).

Use only specified standard batteries. Do not use new and used batteries together.

- This may cause a battery to break or leak and could lead to fire, injury, or contamination (damage).



The battery (and rechargeable battery) is not ordinary refuse and must be returned for recycling purposes. The customer is responsible for returning the used or rechargeable battery for recycling purposes as the consumer of the battery.

- The customer can return the used or rechargeable battery to a nearby public recycling center or to a store selling the same type of the battery or rechargeable battery.

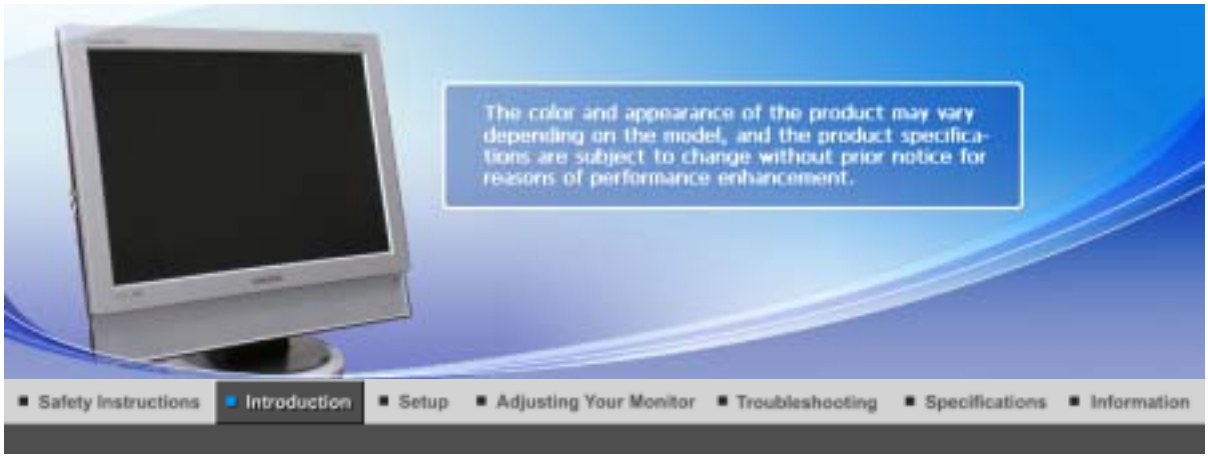
When lifting up or moving the monitor, do not lift the monitor upside down while holding only the stand.

- This may cause your monitor to fall, and become damaged or cause personal injury.

Good Postures When Using the Monitor

Try to maintain a good posture when using the monitor.

- Keep your back straight.
- Keep a distance of about 45 ~ 50 cm between your eyes and the monitor screen. Look at the screen from slightly above it, and have the monitor directly in front of you.
- Tilt the monitor upwards by 10 ~20 degrees. Adjust the monitor height so that the top of the monitor is slightly below eye level.
- Adjust the monitor angle so that there is no reflected light on the screen.Try to maintain your arms perpendicular to your armpits.
- Keep your arms level with the back of your hands.
- Keep the angle of the elbow perpendicular.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Please make sure the following items are included with your monitor.
If any items are missing, contact your dealer.
Contact a local dealer to buy optional items.

Unpacking

Monitor

Manual

Quick Setup Guide

Warranty Card
(Not available in all locations)

User's Guide, Monitor Driver, Natural Color software

Cable

D-Sub Cable

Audio Cable

Power Cord

Other

Remote Control

Batteries (AAA X 2)

Sold separately

TV Antenna Cable (Coaxial Cable)

RCA Cable (Video-Yellow, Audio-Red and White)

Component(PR, PB, Y) Cable

S-VIDEO Cable

Earphones/Headphones

SCART Cable

DVI Cable

Front

1. SOURCE	**2. PIP**	**3. MENU**	**4. CH**
5. - VOL +	**6. [ ] Enter button**	**7. [ ] Power button**	**8. Power indicator**
9. Remote Control Sensor	**10. Speaker**		

1. **SOURCE**
   Press the 'SOURCE' button to change the input signal source.
   Changing the source is allowed only in external devices that are connected to the monitor at the time.
   To switch Screen modes:
   [PC] → [DVI] → [TV] → [Ext.] → [AV] → [S-Video] → [Component]
   >>Click here to see an animation clip

   According to broadcasting type in each country, you may not be able to choose.
   For more information > Broadcasting Systems
2. **PIP - Available in PC/DVI Mode**
   In PC mode, turns on Video or TV screens in PIP mode.
   >>Click here to see an animation clip
3. **MENU**
   Use this button for open the on-screen menu and exits from the menu screen or closes screen adjustment menu.
4. **CH**
   Moves from one menu item to another vertically or adjusts selected menu values.
   In TV mode, selects TV channels.
   >>Click here to see an animation clip
5. **- VOL +**
   Moves from one menu item to another horizontally or adjusts selected menu values.
   Adjusts the audio volume.
   >>Click here to see an animation clip
6. **[ ] Enter button**
   Activates a highlighted menu item.
7. **[ ] Power button**
   Turns the monitor On/Off.
8. **Power indicator**
   Power indicator shows PowerSaver mode by green blinking.
9. **Remote Control Sensor**
   Aim the remote control towards this spot on the monitor.
10. **Speaker**
    You can hear sound by connecting the soundcard of your PC to the monitor.

See PowerSaver described in the manual for further information regarding power saving functions.
For energy conservation, turn your monitor OFF when it is not needed or when leaving it unattended

for long periods.

Rear

(The configuration at the back of the monitor may vary from product to product.)

1. **POWER**

Power terminal
Connect the power cord for your monitor to the POWER on the back of the monitor.
This product may be used with 100 ~ 240VAC(+/- 10%).

2. **DVI/PC IN**

DVI/PC IN

1. **DVI(HDCP)**
   : Connect the DVI cable to the DVI(HDCP) port on the back of your monitor.
2. **RGB**
   : Connect the signal cable to the RGB port on the back of your monitor.
3. **AUDIO**
   : PC sound terminal (input)

3. **EXT(RGB)**

External device terminal

As for EXT(RGB) port of the monitor, it makes TV or Video signal input and output.

4. **COMPONENT IN**

COMPONENT IN

1. **R - AUDIO - L**
   : DVD/DTV sound input terminal (left/right)

2. **PR, PB,Y**
   : DVD/DTV video input terminal(PR, PB,Y)

5. **ANT IN**

ANT IN

Connect the CATV cable or TV antenna cable to the "ANT IN" port on the rear side of the monitor. Make sure to use a TV antenna cable (sold separately) as the antenna cable.

6. **/ S-VIDEO / VIDEO / L - AUDIO - R**

1.
   : Headphone sound output terminal

2. **S-VIDEO**
   : External device (S-video) input terminal

3. **VIDEO**
   : External device (video) input terminal

4. **L - AUDIO - R**
   : External device sound input terminal

7.

Kensington Lock

The Kensington lock is a device used to physically fix the system when using it in a public place.
(The locking device has to be purchased separately.)
For using a locking device, contact where you purchase it.

See Connecting the monitor for further information regarding cable connections.

Remote Control

The performance of the remote control may be affected by a TV or other electronic device operated near the monitor, causing malfunction due to interference with frequency.

1. POWER
2. Number button
3. +100, -/--
4. - +
5. MUTE
6. TTX/MIX
7. MENU
8. ENTER
9. CH/P
10. SOURCE
11. INFO
12. EXIT
13. Up-Down Left-Right buttons
14. AUTO
15. P.MODE, M/B (MagicBright™)
16. P.SIZE
17. STILL
18. PIP
19. S.MODE
20. DUAL/MTS
21. PRE-CH
22. SOURCE
23. SIZE
24. POSITION
25. MAGIC-CH

1. **POWER**
   Turns the monitor On/Off.

2. **Number button**
   Selects TV channels in the TV mode.
   Used to change channels when PIP is selected and the PIP Source is set to TV.

3. **+100**
   Press to select channels over 100.
   For example, to select channel 121, press "+100", then press "2" and "1".

   -/-- (One/Two-Digit channel selection)
   Use to select a channel numbered ten or over.
   Press this button, and the "--" symbol is displayed.
   Enter the two-digit channel number.

4. **- +**
   Adjusts the audio volume.

5. **MUTE**
   Press to mute the sound temporarily.
   Displayed on the bottom left of the screen.
   Press the MUTE button again to cancel the Mute function.
   Alternatively press the - + buttons to cancel the Mute function.

6. **TTX/MIX**
   TV channels provide written information services via teletext.
   For more information > TTX / MIX

7. **MENU**
   Opens the on-screen menu and exits from the menu or closes the adjustment menu.

8. **ENTER**
   Activates a highlighted menu item.

9. **CH/P**
   In TV mode, selects TV channels.

10. **SOURCE**
    Press the 'SOURCE' button to change the input signal source.
    Changing the source is only allowed for external devices that are connected to the monitor at the time.

11. **INFO**
    Current picture information is displayed on the upper left corner of the screen.

12. **EXIT**
    Exits from the menu screen.

13. **Up-Down Left-Right buttons**
    Moves from one menu item to another horizontally, vertically or adjusts selected menu values.

14. **AUTO - Available In PC mode Only**
    Adjusts the screen display automatically.

15. **P.MODE, M/B (MagicBright™)**
    Press to select a pre-defined Picture Mode of the monitor or to change the picture atmosphere as required.
    When you press this button, current mode is displayed on the lower center of the screen.

    TV / AV / Ext. / S-Video /Component : P.MODE
    The monitor has four automatic picture settings that are preset at the factory.
    Then press the button again to circle through available preconfigured modes.
    (Dynamic → Standard → Movie → Custom)

    PC / DVI Mode : M/B (MagicBright™)
    MagicBright™ is a new feature providing the optimum viewing environment depending on the contents of the image you are watching.
    Then press the button again to circle through available preconfigured modes.
    (Entertain→ Internet → Text → Custom)

16. **P.SIZE - Not available in PC/DVI Mode**
    Press to change the screen size.
    (Auto Wide → Wide → Zoom → 4:3)
    Zoom are not available in 1080i(or over 720p) of DTV.

17. **STILL - Operates only for the CVBS, S-Video and RF Signal sources.**

Press the button once to freeze the screen. Press it again to unfreeze.

18. PIP - Available in PC/DVI Mode
Push the PIP button to turn PIP screen On/Off.

19. S.MODE (Sound Mode)
When you press this button, current mode is displayed on the lower center of the screen.
The monitor has a built-in high fidelity stereo amplifier.
Then press the button again to circle through available preconfigured modes.
(Standard → Music → Movie → Speech → Custom)

20. DUAL / MTS
DUAL : STEREO/MONO, DUAL I / DUAL II and MONO/NICAM MONO/NICAM STEREO can be operated depending on broadcasting type by using DUAL button on the remote control while watching TV.

MTS : You can select the MTS (Multichannel Television Stereo) mode.
. Mono, Stereo, SAP (Separate Audio Program)
Set 'MTS' to ON to choose Mono, Stereo or SAP.

21. PRE-CH
This button is used to return to the immediately previous channel.

22. SOURCE - Adjustable when the PIP function is ON.
Selects the Video source.

23. SIZE - Adjustable when the PIP function is ON.
You can switch the PIP picture size.

24. POSITION - Adjustable when the PIP function is ON.
Changes the Position of the PIP window.

25. MAGIC-CH
MagicChannel enables you to watch only certain channels.
This function is available only in Korea.

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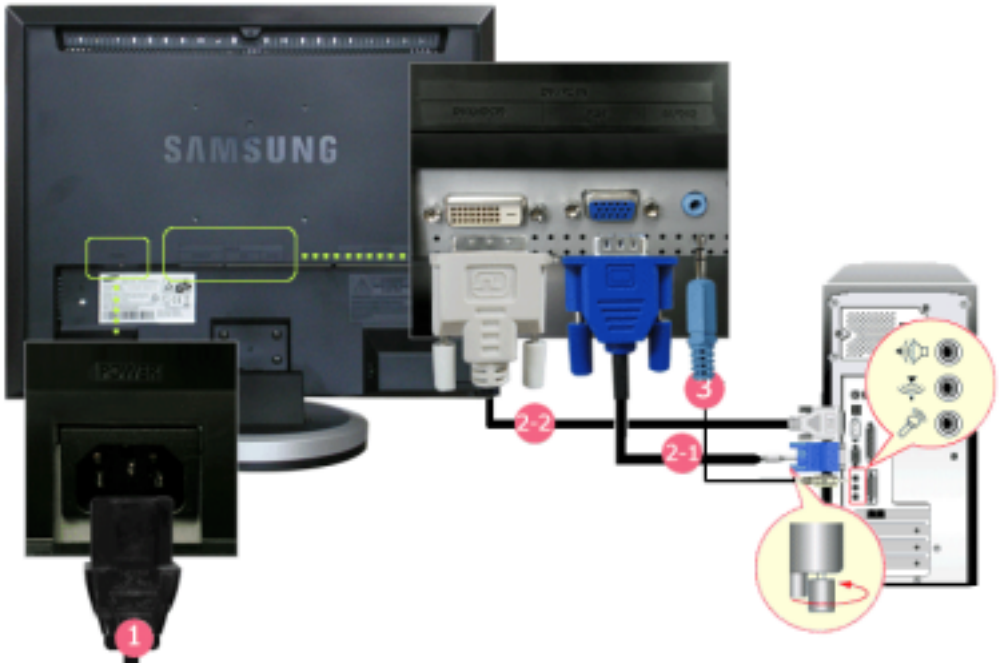
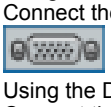
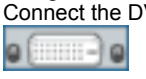
Connecting the monitor

1.Connecting to a Computer



1. Connect the power cord for your monitor to the POWER on the back of the monitor.
   Plug the power cord for the monitor into a nearby outlet.
2. Use a connection appropriate for your computer.
   - **2-1.** Using the D-sub (Analog) connector on the video card.
     Connect the signal cable to the **RGB** port on the back of your monitor.

     
   - **2-2.** Using the DVI (Digital) connector on the video card.
     Connect the DVI cable to the **DVI(HDCP)** port on the back of your monitor.

     
3. Connect the **(DVI/PC IN) AUDIO** port on the rear side of the monitor to the sound card of the PC.

Turn on both your computer and the monitor.

2. Connecting to a Macintosh

1. Using the D-sub (Analog) connector on the video card.
   Connect the signal cable to the D-SUB port on the Macintosh computer.

Turn on the monitor and Macintosh.

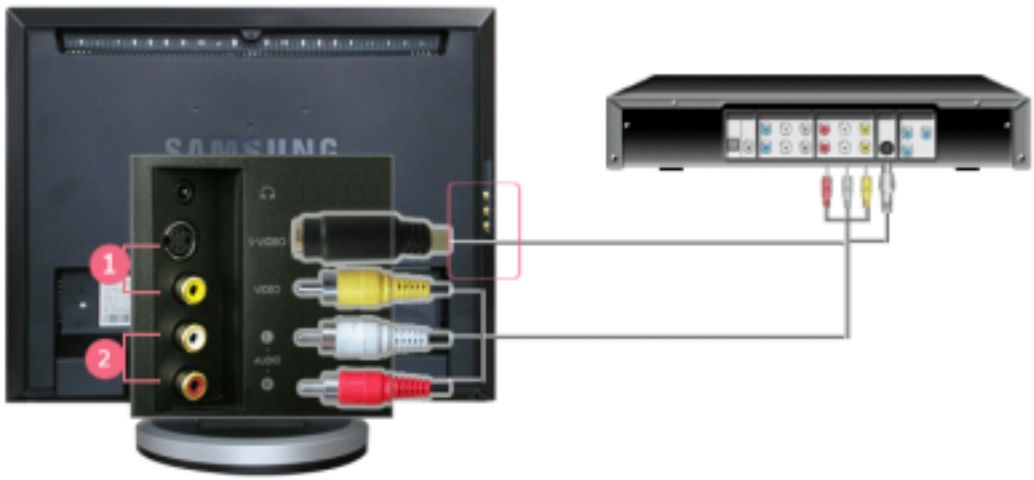
Connecting to Other devices

This monitor allows the user to connect it to such input devices as a DVD player, a VCR or camcorder, or a DTV or TV without disconnecting the PC.

The configuration at the back of the monitor may vary from product to product.

1-1. Connecting AV Devices

The monitor has AV connection terminals to connect AV input devices like DVDs, VCRs or Camcorders. You may enjoy AV signals as long as the monitor is turned on.

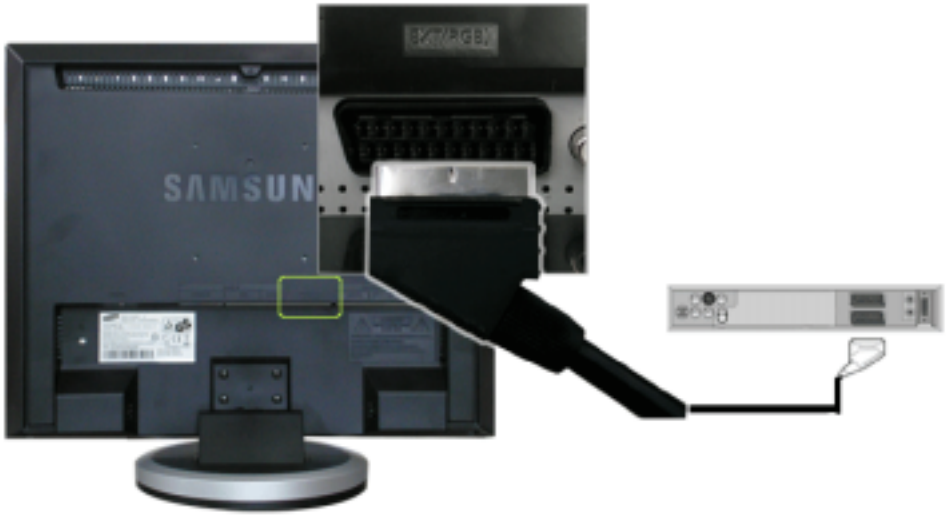


1. Input devices such as DVD, VCR or Camcorder are connected to the VIDEO or S-VIDEO terminal of the monitor using the Video or S-Video cable.

2. Connect the port of the DVD, VCR (DVD / DTV Set-Top Box) to the **R-AUDIO-L** port of the monitor.
3. Then, start the DVD, VCR or Camcorders with a DVD disc or tape inserted.
4. Select AV or S-Video using the **SOURCE**.

1-2. Connecting EXT.(RGB) - It only applies to AV DEVICE that supports SCART.

Connect to the DVD Devices input if the device has a EXT (RGB) jack.
You can watch DVD simply by hooking up the DVD player with the monitor as long as the power is on.



1. Connect the **EXT (RGB)** port of the monitor to the DVD Player using a SCART jack.
2. Select Ext. by using the SOURCE.

2. Connecting TV

You may view television programs on the monitor if it is connected to an antenna or CATV cable without installing any separate TV reception hardware or software on your computer.

1. Connect the CATV cable or TV antenna cable to the "ANT IN" port on the rear side of the monitor. Make sure to use a TV antenna cable (sold separately) as the antenna cable.
   - **When using an interior antenna terminal:**
     Check the antenna terminal on the wall first and connect the antenna cable.
   - **When using an outdoor antenna:**
     If you are using an outdoor antenna, use a professional for installation if possible.
   - **To connect the RF cable to the antenna input terminal:**
     Keep the copper wire portion of the RF cable straight.
2. Turn on the monitor.

3. Select TV using the **SOURCE**.
4. Select a desired TV channel.

Is weak signal causing poor reception?
Purchase and install a signal amplifier for better reception.

3. Connecting DVD/DTV Set Top Box

Connect to the DVD/DTVSet Top Box input if the device has a DVD/DTV connector.
You can watch Component simply by hooking up the Component with the monitor as long as the power is on.

1. Connect the port of the DVD, VCR (DVD / DTV Set-Top Box) to the **R-AUDIO-L** port of the monitor.
2. Connect the VIDEO OUT port of the DVD / DTV Set-Top Box to the PR, PB,Y input ports using a component video cable (PR, PB,Y).
3. Select Component using the **SOURCE**.

4. Connecting Headphone

You may connect your headphones to the monitor.

1. Connect your headphones to the Headphone connection terminal.

Using the Stand

This monitor supports various types of VESA-standard bases.
You need to either fold or remove the base in use in order to install a VESA base.

1. Folding the base

The monitor may be reclined from -1 to 23 degrees.

2. Attaching a base

This monitor accepts a 100 mm X 100 mm VESA-compliant mounting interface pad.

A. Monitor

B. Mounting interface pad (Sold separately)

1. Turn off your monitor and unplug its power cord.
2. Lay the LCD monitor face-down on a flat surface with a cushion beneath it to protect the screen.
3. Turn the fixing screw handle on the stand counterclockwise to loosen it and then separate it from the stand.
4. Align the Mounting Interface Pad with the holes in the Rear Cover Mounting Pad and secure it with four screws that came with the arm-type base, wall mount hanger or other base.

To mount the monitor on a wall, you should purchase the wall mounting kit that allows you to mount the monitor at least 10cm away from the wall surface.
Contact the nearest Samsung Service Center for more information.
Samsung Electronics will not be responsible for damages caused by using a base other than

those specified.
Please use Wall Mount according to the International standards.

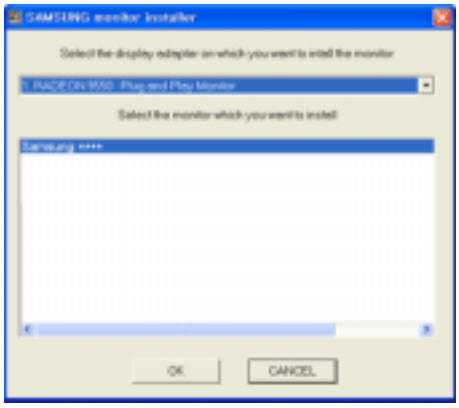
Installing the monitor driver (Automatic)

When prompted by the operating system for the monitor driver, insert the CD-ROM included with this monitor. Driver installation is slightly different from one operating system to another. Follow the directions appropriate for the operating system you have.

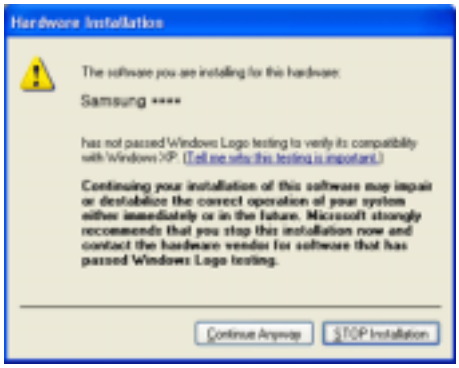
Prepare a blank disk and download the driver program file at the Internet web site shown here.

- Internet web site : http://www.samsung.com/ (WorldWide)
  http://www.samsung.com/monitor (U.S.A)
  http://www.sec.co.kr/monitor (Korea)
  http://www.samsungmonitor.com.cn/ (China)

1. Insert CD into the CD-ROM drive.
2. Click "**Windows**"
3. Choose your monitor model in the model list, then click the **"OK"** button.



4. If you can see following message window, then click the **"Continue Anyway"** button. Then click **"OK"** button. (Microsoft® Windows® XP Operating System)



This monitor driver is under certifying MS logo,and this installation don't damage your system.The certified driver will be posted on Samsung Monitor Homepage
http://www.samsung.com/

5. Monitor driver installation is completed.

Installing the monitor driver (Manual)

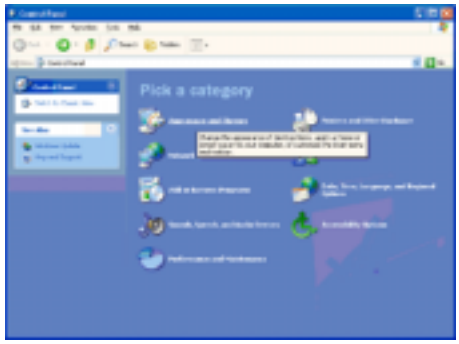
When prompted by the operating system for the monitor driver, insert the CD-ROM included with this monitor. Driver installation is slightly different from one operating system to another. Follow the directions appropriate for the operating system you have.

Prepare a blank disk and download the driver program file at the Internet web site shown here.

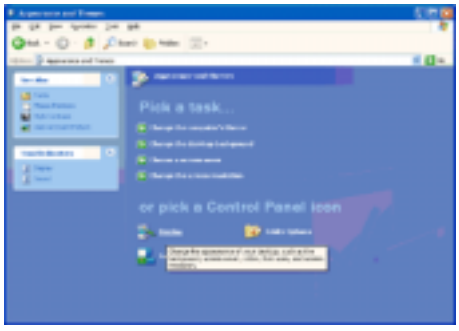
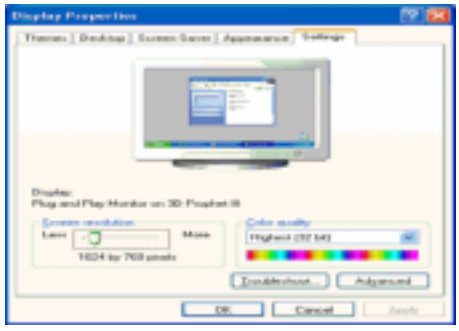
- Internet web site : http://www.samsung.com/ (WorldWide)
  http://www.samsung.com/monitor (U.S.A)
  http://www.sec.co.kr/monitor (Korea)
  http://www.samsungmonitor.com.cn/ (China)

Microsoft® Windows® XP Operating System

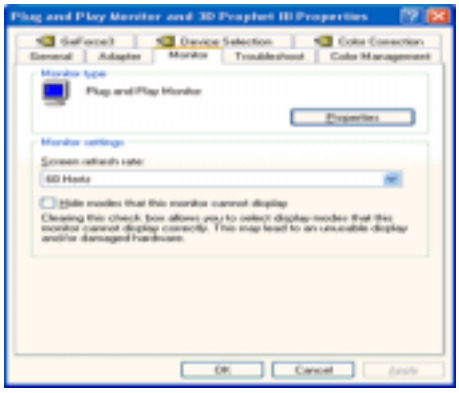
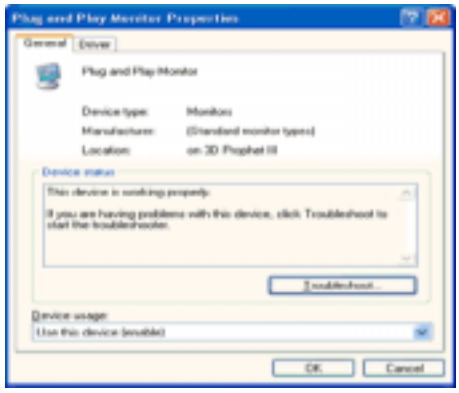
1. Insert CD into the CD-ROM driver.
2. Click "**Start**" —> "**Control Panel**" then click the "**Appearance and Themes**" Icon.



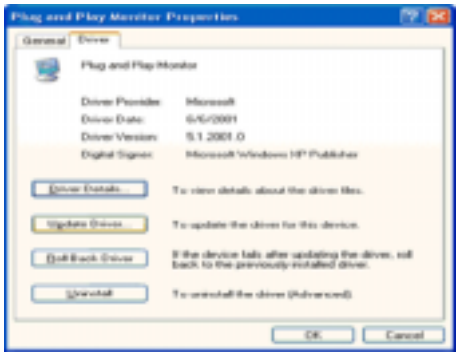
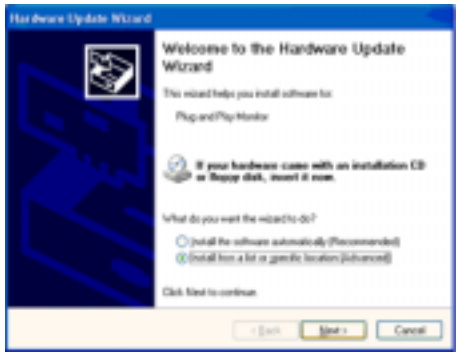
3. Click "**Display**" icon and choose the "**Settings**" tab then click "**Advanced..**".

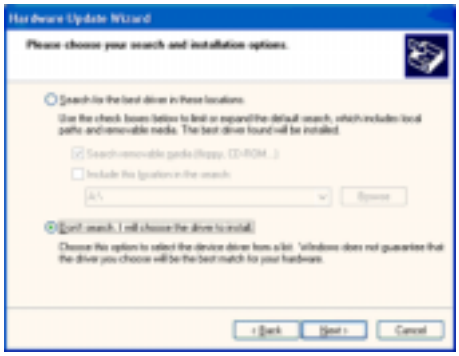
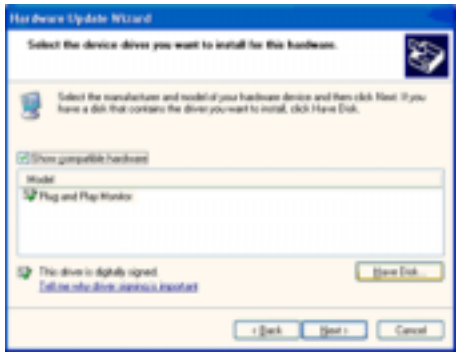
4. Click the "**Properties**" button on the "**Monitor**" tab and select "**Driver**" tab.

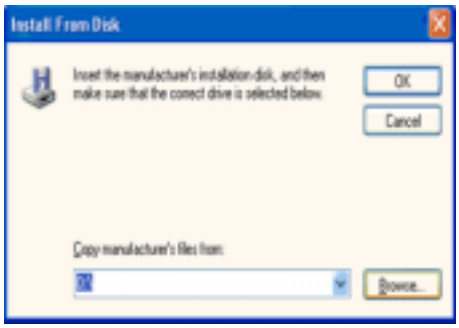
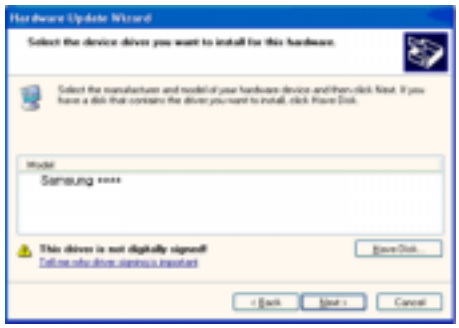
5. Click "**Update Driver..**" and select "**Install from a list or..**" then click "**Next**" button.

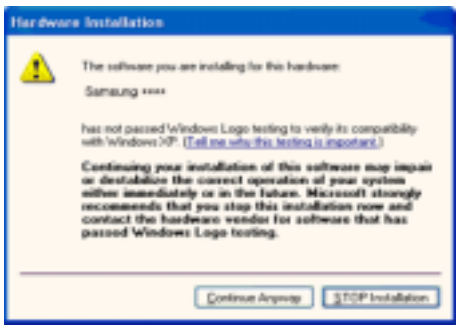
6. Select "**Don't search ,I will..**" then click "**Next**" and then click "**Have disk**".

7. Click the "**Browse**" button then choose A:(D:\Driver) and choose your monitor model in the model list and click the "**Next**" button.

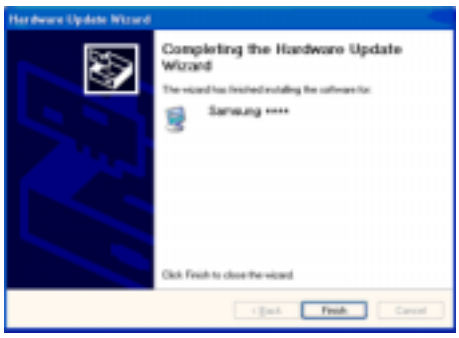



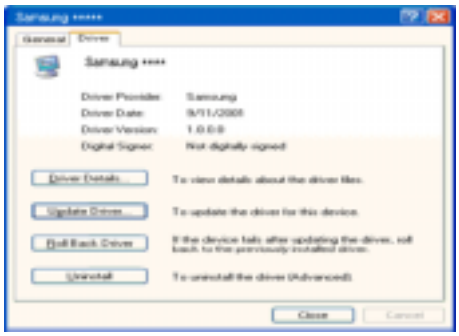
8. If you can see following message window, then click the "**Continue Anyway**" button. Then click "**OK**" button.

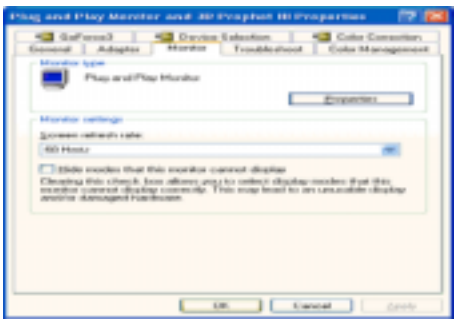


This monitor driver is under certified MS logo,and this installation doesn't damage your system.The certified driver will be posted on Samsung Monitor Homepage.
http://www.samsung.com/

9. Click the "**Close**" button then click "**OK**" button continually.







10. Monitor driver installation is completed.

Microsoft® Windows® 2000 Operating System

When you can see "Digital Signature Not Found" on your monitor, follow these steps.

1. Choose "**OK**" button on the "**Insert disk**" window.
2. Click the "**Browse**" button on the "**File Needed**" window.
3. Choose A:(D:\Driver) then click the "Open" button and then click "**OK**" button.

How to install

1. Click "**Start**" , "**Setting**" , "**Control Panel**".
2. Double click the "**Display**" Icon.
3. Choose the "**Settings**" tab and then click "**Advanced..**".
4. Choose "**Monitor**".
   Case1: If the "Properties" button is inactive, it means your monitor is properly configured. Please stop installation
   Case2: If the "Properties" button is active, click the "Properties" button then follow next steps continually.
5. Click "**Driver**" and then click on "**Update Driver..**" then click on the "Next" button.
6. Choose "**Display a list of the known drivers for this device so that I can choose a specific driver**" then click "**Next**" and then click "**Have disk**".
7. Click the "**Browse**" button then choose A:(D:\Driver).
8. Click the "**Open**" button, then click "**OK**" button.
9. Choose your monitor model and click the "**Next**" button then click "**Next**" button.
10. Click the "**Finish**" button then the "**Close**" button.

    If you can see the "**Digital Signature Not Found**" window then click the "**Yes**"button. And click the "**Finish**" button then the "**Close**" button.

Microsoft® Windows® Millennium Operating System

1. Click "**Start**" , "**Setting**" , "**Control Panel**".
2. Double click "**Display**" icon.
3. Select the "**Settings**" tab and click "**Advanced Properties**" button.
4. Select the "**Monitor**" tab.
5. Click the "**Change**" button in the "**Monitor Type**" area.
6. Choose "**Specify the location of the driver**".
7. Choose "**Display a list of all the driver in a specific location..**" then click "**Next**" button.
8. Click the "**Have Disk**" button
9. Specify A:\(D:\driver) then click "**OK**" button.
10. Select "**Show all devices**" and choose the monitor that corresponds to the one you connected to your computer and click "**OK**".
11. Continue choosing "**Close**" button and "**OK**" button until you close the Display Properties dialogue box.

Microsoft® Windows® NT Operating System

1. Click **Start**, **Settings**, **Control Panel**, and then double-click **Display** icon.
2. In Display Registration Information window, click Settings Tab and then click **All Display Modes**.
3. Select a mode that you wish to use (Resolution, Number of colors and Vertical frequency) and then click **OK**.
4. Click **Apply** button if you see the screen working normally after clicking **Test**. If the screen is not normal, change to a different mode (lower mode of resolution, colors or frequency).

If there is no Mode at **All Display Modes**, select the level of resolution and vertical frequency by referring to the Preset Timing Modes in the user guide.

Linux Operating System

To execute X-Window, you need to make the X86Config file, which is a type of system setting file.

1. Press Enter at the first and the second screen after executing the X86Config file.
2. The third screen is for **setting your mouse**.
3. Set a mouse for your computer.
4. The next screen is for **selecting a keyboard**.
5. Set a Keyboard for your computer.
6. The next screen is for **setting your monitor**.
7. First of all, set a **horizontal frequency** for your monitor. (You can enter the frequency directly.)
8. Set a **vertical frequency** for your monitor. (You can enter the frequency directly.)
9. Enter the **model name of your monitor**. This information will not affect the actual execution of X-Window.
10. You have **finished** setting up your monitor.
    Execute X-Window after setting other requested hardware.

Natural Color

Natural Color Software Program

One of the recent problems in using a computer is that the color of the images printed out by a printer or other images scanned by a scanner or a digital camera are not the same as those shown on the monitor.
The Natural Color S/W is the very solution for this problem. It is a color administration system developed by Samsung Electronics in association with Korea Electronics & Telecommunications Research Institute (ETRI).
This is only available for Samsung monitors and ensures that the color of the images on the monitor are the same as the printed or scanned images.
For more information, refer to Help (F1) in the software program.

Installing the Natural Color Software
Insert the CD included with the Samsung monitor into the CD-ROM Drive. The initial Natural Color screen will appear. Click on Natural Color in the startup window to install the Natural Color software.
To install the program manually, insert the CD included with the Samsung monitor into the CD-ROM Drive, click the Windows [Start] button, select [Execute].

Enter D:\color\NCProSetup.exe and then press the <Enter> key.
(If the drive where the CD is inserted is not D:\, enter the applicable drive.)

Uninstalling the Natural Color Software Program
Select [Settings]/[Control Panel] from the [Start] menu and then double-click [Add/Delete a program].
Select Natural Color from the list and then click the [Add/Delete] button.

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

Input

Available Source List | P : PC / DVI | T : TV | E : Ext. | A : AV | S : S-Video | C : Component

OSD	Description	Play/Stop
Source List	Use to select PC or other external input sources connected to the Monitor. Use to select the screen of your choice. **- The direct button on the remote control is 'SOURCE' button.** **PC** **DVI : HDCP supported** **TV** **Ext.** It is connected to the EXT(RGB) jack of the monitor and the TV or Video signal is input/output through this jack. **AV** **S-Video** **Component**	PTEASC
PIP	When external A/V devices such as VCRs or DVDs are connected to the monitor, PIP allows you to watch Video from those devices in a small window super-imposed on the PC Video signal. (On/Off) When PIP is in operation, the sound in PIP Source will be selected.	

	- Available in PC, DVI modes. **PIP**: Turn the PIP Screen on or off. **ON/ Off** **- The direct button on the remote control is 'PIP' button.** **Source**: Select the input source for the PIP. **Main Source: PC / DVI** **PIP Source (Sub): TV / Ext. / AV / S-Video** **- The direct button on the remote control is 'SOURCE' button.** **Size**: Changing the Size of the PIP window. **If you select in Size, Position will not be activated.** **- The direct button on the remote control is 'SIZE' button.** **Position**: Changing the Position of the PIP window. **- The direct button on the remote control is 'POSITION' button.**	
Edit Name	Name the input device connected to the input jacks to make your input source selection easier. **PC** **DVI** **Ext.** **AV** **S-Video** **Component**	

Picture

PC / DVI

Available Source List | P : PC / DVI | T : TV | E : Ext. | A : AV | S : S-Video | C : Component

OSD	Description	Play/Stop
MagicBright™	MagicBright™ is a new feature providing the optimum viewing environment depending on the contents of the image you are watching.	

	Currently four different modes are available: Entertain, Internet,Text and Custom. Each mode has its own pre-configured brightness value. You can easily select one of four settings by simply pressing the MagicBright™ control button. **- The direct button on the remote control is 'M/B' button.** **Entertain** For watching motion pictures such as a DVD or VCD. **Internet** For working with a mixture of images such as text and graphics. **Text** For documentations or works involving heavy text. **Custom** Although the values are carefully chosen by our engineers, the pre-configured values may not be comfortable to your eyes depending on your taste. If this is the case, adjust the Brightness and Contrast by using the OSD menu.	
Custom	You can use the on-screen menus to change the contrast and brightness according to personal preference. **Contrast** : Adjust the Contrast. **Brightness** : Adjust the Brightness.	
	If you adjust picture using Custom function, MagicBright will turn to Custom mode.	
Colour Tone	The tone of the color can be changed. Available in PC/DVI Mode Only The individual color DTVs are also user customizable. **PC : Cool / Normal / Warm / Custom** **DVI : Cool / Normal / Warm**	
Colour Control	Adjust the individual R, G, B Colour Controls. **- Available in PC Mode Only** **Red** **Green** **Blue**	
	If you adjust picture using Colour Control function, Colour Tone will turn to Custom mode.	
Image Lock	Image Lock is used to fine tune and get the best image by removing noise that creates unstable images with jitter and shimmer. If satisfactory results are not obtained using the Fine adjustment, use the Coarse adjustment and then use Fine again. **- Available in PC Mode Only** **Coarse** : Removes noise such as vertical stripes. Coarse adjustment may move the screen image area. You may relocate it to the center using the Horizontal Control menu. **Fine** : Removes noise such as horizontal stripes. If the noise persists even after Fine tuning, repeat it after adjusting the frequency (clock speed). **Sharpness** **- When the Source is set to DVI, only this function operates.** : Adjust the Sharpness. **Position** : Adjusts the screen location horizontally and vertically.	Coarse / Fine Sharpness Position
Auto Adjustment	The values of Fine, Coarse, Position are adjusted automatically. If you change resolution in the control panel, Auto function will be executed. **- The direct button on the remote control is 'AUTO' button.** **- Available in PC Mode Only**	
Size	You can switch the Size. **Wide** **4:3**	
PIP Picture	You can adjust the PIP Screen Settings. **Contrast** : Adjusts the Contrast of the PIP window on the screen. **Brightness**	

	: Adjusts the Brightness of the PIP window on the screen. **Sharpness** : Adjusts the Sharpness of the PIP window on the screen. **Colour** : Adjusts the Color of the PIP window on the screen.	

Source List : TV / Ext. / AV / S-Video / Component

Available Source List | P : PC / DVI | T : TV | E : Ext. | A : AV | S : S-Video | C : Component

OSD	Description	Play/Stop
Mode	The monitor has four automatic picture settings ("Dynamic", "Standard", "Movie", and "Custom") that are preset at the factory. You can activate either Custom, Dynamic, Standard, or Movie. You can select "Custom" which automatically recalls your personalized picture settings. **- The direct button on the remote control is 'P.MODE' button.** **Dynamic** : Select this mode to view a sharper image than in "Standard" mode. **Standard** : Select this mode when the surroundings are bright. This also provides a sharp image. **Movie** : Select this mode when the surroundings are dark. This will save power and reduce eye fatigue. **Custom** : Select this mode when you want to adjust the image according to your preferences	
Custom	You can use the on-screen menus to change the contrast, and brightness according to personal preference. **Contrast** : Adjusts the Contrast. **Brightness** : Adjusts the Brightness. **Sharpness** : Adjust the Sharpness. **Colour** : Adjust the picture Color.	
Colour Tone	The tone of the color can be changed. Available in PC/DVI Mode Only The individual color Components are also user customizable. **Cool2 / Cool1 / Normal / Warm1 / Warm2**	

Size	You can switch the Size. **- The direct button on the remote control is 'P.SIZE' button.** **Auto Wide / Wide / Zoom / 4:3** Zoom is not available in 1080i(or over 720p) of DTV.	

Sound

Available Source List — P : PC / DVI, T : TV, E : Ext., A : AV, S : S-Video, C : Component

OSD	Description	Play/Stop
Mode	The monitor has a built-in high fidelity stereo amplifier. **- The direct button on the remote control is 'S.MODE' button.** **Standard** : Choose Standard for the standard factory settings. **Music** : Choose Music when watching music videos or concerts. **Movie** : Choose Movie when viewing movies. **Speech** : Choose Speech when watching a show that is mostly dialogue (i.e., news). **Custom** : Choose Custom if you want to adjust the settings according to personal preference.	
Custom	The sound settings can be adjusted to suit your personal preference. **Bass** : Emphasize low frequency audio. **Treble** : Emphasize high frequency audio. **Balance** : Allows you to adjust the sound balance between the left and right speakers. **Balance allows you to adjust the sound balance between the left and**	

	right speakers and you can hear the sound even when the sound value is set to 0.	
Auto Volume	Reduces the differences in volume level among broadcasters. **On /Off**	PTEASC
Dolby Virtual	Dolby Virtual Sound On/Off (Dolby Virtual simulates the effect of the Dolby Surround sound system, recreating the movie-theatre or concert-hall- quality sound.) **On /Off**	PTEASC
BBE	BBE High Definition Sound is a proprietary audio enhancement technology that compensates for phase and amplitude distortion inherent in the nature of loudspeaker physics. BBE works like an automatic focus in a camera, bringing incredible clarity, depth and detail to the sound. **On** **Off**	PTEASC
	Switching BBE On changes the Mode to Standard, switches Dolby Virtual Off, and deactivates Custom. Selecting a Mode other than Standard Mode, switches BBE Off even if you have switched BBE On.	
Sound Select	You can select either Main or Sub when PIP is On. **Main / Sub**	P

Channel

Available Source List — P : PC / DVI, T : TV, E : Ext., A : AV, S : S-Video, C : Component

OSD	Description	Play/Stop
Country	Select the country in which the product is being used before you use the Auto Store feature. If you do not see your country in the list, select Other. **Belgium, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland, UK, Others, CIS, E.Europe**	T
Auto Store	You can scan the frequency ranges available on your television in your area and store all the channels found automatically. The following Countries are available.	T

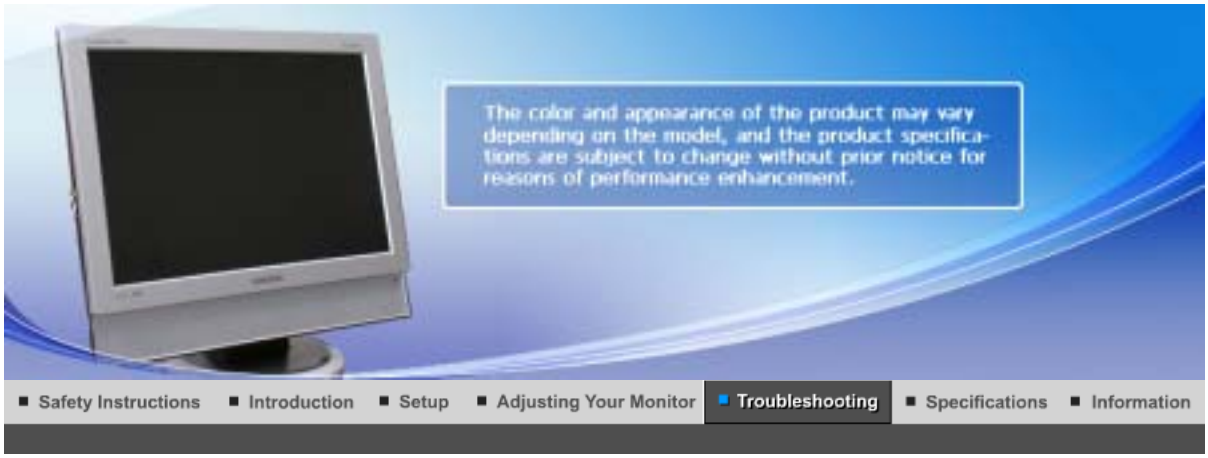
Manual Store	You can scan the frequency ranges available on your television in your area and store all the channels found manually. **Programme**: Inputting the appropriate program number on the screen. **Colour System**: Adjust repeatedly until the color is of the best quality. AUTO, PAL, SECAM, NT4.43 **Sound System**: Adjust repeatedly until the sound is of the best quality. BG , DK, I, L **Channel** : Choosing the air channel through the adjustment of up/down under the current frequency. **Search** : The tuner scans the frequency range until the first channel or the channel that you selected is received on your screen. **Store** : It's used to restore the number user inputs.	
Add/Delete	Selecting Add registers the channel and selecting Delete deregisters the registered channel.	
Sort	It's used to exchange the numbers of two channels.	
Name	If channel name information is broadcast when you store the channels either manually or automatically, the names are assigned to the channels directly. You can however change these names or assign new names as required.	
Fine Tune	Due to weak signals or an incorrect antenna configuration, some of the channels may not be tuned correctly.	

Setup

Available Source List — P : PC / DVI, T : TV, E : Ext., A : AV, S : S-Video, C : Component

OSD	Description	Play/Stop

Area Configuration	When you turn the power on of the product for the first time since it released from a factory, menu to select location will appear. Choose the region and country where you use the monitor. This is because broadcasting type varies according to region and country. You can select broadcasting type in OSD menu as well by selecting **MENU-Setup-Area Configuration**. This product can be used worldwide if area configuration is set up regardless of broadcasting type. If country is not selected properly, the product may not locate channels.	
Language	You can choose one of 8 languages. English Deutsch Français Español Italiano Português Русский Svenska The selected language is only applied in the Monitor Screen Settings menu. It has no effect on any software running on the computer.	
Sleep Timer	Turns the monitor off after a pre-determined period of time. **Off, 30, 60, 90, 120, 150, 180**	
Transparency	Change the opaqueness of the background of the OSD. **High** **Medium** **Low** **Opaque**	
Blue Screen	If no signal is being received or the signal is very weak, a blue screen automatically replaces the noisy picture background. If you wish to continue viewing the poor picture, you must set the "Blue screen" mode to "Off". **On / Off**	
Reset	Picture parameters are replaced with the factory default values. **- Available in PC Mode Only** **Image Reset** : Image parameters are replaced with the factory default values. **Colour Reset** : Color parameters are replaced with the factory default values.	


The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.
Safety Instructions
Introduction
Setup
Adjusting Your Monitor
Troubleshooting
Specifications
Information

Self-Test Feature Check

Check the following items yourself before calling for service. Contact the service center for problems that you cannot solve by yourself.

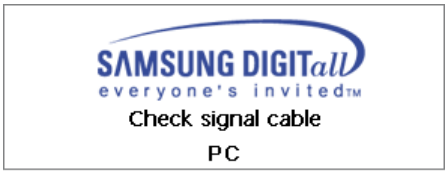
Self-Test Feature Check | Not Optimum Mode | Display Adapter Driver
Maintenance and Cleaning | Symptoms & Recommended Actions

1. Self-Test Feature Check

Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly.

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer.
3. Turn on the monitor.

   The figure shown below ("Check Signal Cable") appears on a black background when the monitor is in its normal working condition though it does not sense any video signal: While in the Self-Test mode, the LED power indicator remains green and the figure moves around on the screen.

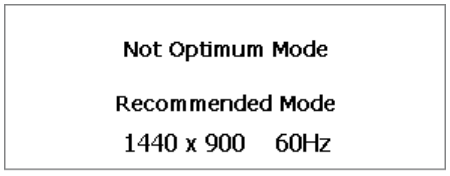


4. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after using the previous procedure, check your video controller and computer system; **your monitor is functioning properly**.

2. Not Optimum Mode

If the vertical resolution is not optimum mode, you can still see the display but the warning message below appears and disappears after one minute.
The user must adjust the frequency within that one minute.



Refer to Specifications > Preset Timing Modes for the resolutions or frequencies that are

supported by the monitor.

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3. Display Adapter Driver

Display adapter refers to the computer video card driver.
If the adapter is not properly set, you cannot adjust resolution, frequency or color and you cannot install the monitor driver.

1. Checking Adapter Driver
   Click Start → Settings → Control Panel → Display → Settings → Advanced → Adapter.
   If "Default" or a wrong product model is indicated, it means that the adapter driver is not properly installed. Install the adapter driver again according to the information provided by the computer or video card manufacturers.

2. Installing Adapter Driver

   The instructions given below are for general circumstances.
   For specific issues, contact the relevant computer or video card manufacturers.

   1) Click Start → Settings → Control Panel → Display → Settings → Advanced → Adapter → Update Driver → Next → Display a list of the known drivers for this device so that I can choose a specific driver → Next → Have Disk (Insert Video Card Driver diskette) → OK → Next → Next → Finish.
   2) In case you have Adapter Driver Setup file on your computer:
      Run Setup.exe or Install.exe, which is found in the Adapter Driver Setup file.

---

4. Maintenance and Cleaning

1. Maintaining the Monitor Case.
   Clean with a soft cloth after disconnecting the power cord.

- Do not use benzene, thinner or other flammable substances, or a wet cloth.
- We recommend a Samsung cleansing agent is used to prevent damage to the screen.

2. Maintaining the Flat Panel Display Screen.
   Clean with a soft cloth (cotton flannel) smoothly.

- Never use acetone, benzene or thinner.
  (They may cause flaws or deformation of the screen surface.)
- The user will be required to pay costs and related expenses for repair of damages caused by him/her.

---

5. Symptoms and Recommended Actions

A monitor recreates visual signals received from the computer. Therefore, if there is trouble with the computer or the video card, this can cause the monitor to become blank, have poor coloring, noise, Video mode not supported, etc. In this case, first check the source of the problem, and then contact a service center or your dealer.

1. Check if the power cord and the video cables are properly connected to the computer.
2. Check if the computer beeps more than 3 times when booting.
   (If it does, request an after-service for the main board of the computer.)
3. If you installed a new video card or if you assembled the PC, check if you installed the adapter(video) driver and the monitor driver.
4. Check if the scanning ratio of the video screen is set at 56 Hz or 75 Hz.
   (Do not exceed 60 Hz when using the maximum resolution.)
5. If you have problems in installing the adapter (video) driver, boot the computer in Safe Mode, remove the Display Adapter at the "**Control Panel**, **System**, **Device Administrator**" and then reboot the computer to reinstall the adapter (video) driver.

The following table lists possible problems and their solutions. Before calling for service, check the information in this section to see if you can remedy any problems yourself. If you do need assistance, please call the phone number on the Information section or contact your dealer.

1. Problems related to Installation

Problems related to the monitor installation and their solutions are listed.

	Problems	Solutions
PC Mode	**It appears the PC does not function normally.**	• Check if the Display Adapter Driver (VGA Driver) is properly installed. (Refer to Installing Driver)
	The monitor screen flickers.	• Check if the signal cable between the computer and the monitor is securely connected and tightened. (Refer to Connecting to a monitor)
TV Mode	**TV screen is blurred or shows noise signals.**	• Check if the TV antenna connector is securely connected to the external antenna. (Refer to Connecting to TV)
	TV signal is not received	• Check "Channel system" and make sure you choose the correct channel system. (Refer to the Channel System) • Select "Auto Store" to configure the channel system automatically. (Refer to the Auto Store)

2. Problems related to Screen

Problems related to the monitor screen and their solutions are listed.

Problems	Solutions
Screen is blank and power indicator is off	• Ensure that the power cord is firmly connected and the LCD monitor is on. (Refer to the Connecting the Monitor)
"Check Signal Cable" message	• Ensure that the signal cable is firmly connected to the PC or video sources. (Refer to the Connecting the Monitor) • Ensure that the PC or video sources are turned on.
"Not Optimum Mode" message	• Check the maximum resolution and the frequency of the video adapter. • Compare these values with the data in the Preset Timing Modes Chart.
Picture rolls vertically.	• Check if the signal cable is securely connected. Connect it again securely. (Refer to Connecting to a monitor)
Image is not clear. Picture is blurred.	• Run Frequency Coarse and Fine tuning. • Turn on again after removing all accessories (video extension cable, etc.) • Set resolution and frequency to the recommended ranges.
Picture image is unstable and vibrates.	• Check if the resolution and frequency set for the computer video card falls in the range supported by the monitor. If not, reset them referring to the current Information under the monitor menu and Preset Timing Modes.
Ghost images are shown in the picture.	
The image is too light or too dark	• Adjust the Brightness and Contrast. (Refer to the Brightness, Contrast)
Screen color is inconsistent.	• Adjust color using Custom under OSD Color Adjustment menu.
Color image is distorted with	

dark shadows.	
White color is poor.	
Power Indicator blinks green.	• The monitor is currently saving the changes made in settings to the OSD memory.
Screen is blank and power indicator light is steady green or blinks every 0.5 or 1 seconds	• The monitor is using its power management system. • press a key on the keyboard
The screen is blank and is blinking.	• If you see the "TEST GOOD" message on the screen when you press the MENU button, check the cable connection between the monitor and the computer to ensure that the connector is properly connected.

3. Problems related to Audio

Problems related to audio signals and their solutions are listed below.

Problems	Solutions
No sound	• Ensure that the audio cable is firmly connected to both the audio-in port on your monitor and the audio-out port on your sound card. (Refer to the Connecting the Monitor) • Check the volume level. (Refer to the Volume)
Sound level is too low.	• Check the volume level. (Refer to the Volume) • If the volume is still too low after turning the control to its maximum, check the volume control on the computer sound card or software program.
Sound is too high pitched or too low pitched	• Adjust the Treble and Bass to appropriate level.

4. Problems related to Remote Control

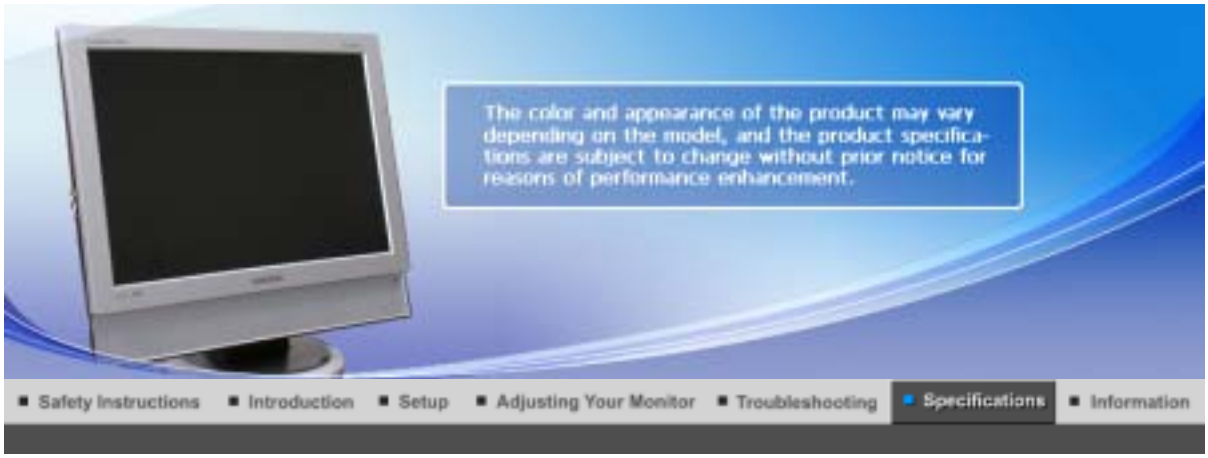
Problems related to the remote control and their solutions are listed.

Problems	Items to check
The remote control buttons do not respond.	• Check the battery polarities (+/-). • Check if the batteries have been exhausted. • Check if the power is on. • Check if the power cord is securely connected. • Check if a special fluorescent or neon lamp is on in the vicinity.

Q & A

Question	Answer
How can I change the frequency?	Frequency can be changed by reconfiguring the video card. Note that video card support can vary, depending on the version of the driver used. (Refer to the computer or the video card manual for details.)
How can I adjust the resolution?	Windows ME/XP/2000 : Set the resolution at the Control Panel→Display→Settings. * Contact the video card manufacturer for details.

How can I set the Power Saving function?	Windows ME/XP/2000 : Set the function at BIOS-SETUP of the computer or the screen saver. (Refer to Windows/Computer Manual).
How can I clean the outer case/LCD Panel?	Disconnect the power cord and then clean the monitor with a soft cloth, using either a cleaning solution or plain water. Do not leave any remains of the detergent nor scratch the case. Do not allow any water to go inside the monitor.


The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

General

General	
Model Name	SyncMaster 960HD
LCD Panel	
Size	19.0 inch diagonal (48 cm)
Display area	408.24 mm(H) x 255.15 mm(V)
Pixel Pitch	0.2835 mm(H) x 0.2835 mm(V)
Synchronization	
Horizontal	30 ~ 61 kHz
Vertical	56 ~ 75 Hz
Display Color	
16.7 M Colors	
Resolution	
Optimum resolution	WXGA+ 1440 x 900 @ 60 Hz
Maximum resolution	WXGA+ 1440 x 900 @ 60 Hz
Input Signal, Terminated	
RGB Analog, DVI(Digital Visual Interface) Composite Digital RGB, 0.7Vp-p±5%, Positive bright, 75Ω±10%(terminated), Separate H/V sync, Composite,TTL level, positive or negative	
TV / Video	
Color system	NTSC-M, PAL-M/N, PAL/SECAM - L/L',B/G,D/K,I
Video format	S-Video, Composite, Component, Built-in-Tuner, PIP
Maximum Pixel Clock	
81 MHz	
Power Supply	
AC 100 - 240 V~ (+/- 10 %), 50/60 Hz	
Signal Cable	
15pin to 15pin D-sub cable, Detachable DVI-D to DVI-D connector, Detachable (Option)	

Signal connectors

15pin 3-row D-sub connector, 24pin 3-row DVI-D connector

Dimensions (WxHxD)/ Weight

466 x 406 x 217 mm / 18.3 x 16.0 x 8.5 inch / 6.2 kg / 13.7 lbs (With Stand)
466 x 371 x 66 mm /18.3 x 14.6 x 2.6 inch (Without Stand)

VESA Mounting Interface

100 mm X 100 mm (for use with Specialty(Arm) Mounting hardware.)

Environmental considerations

Operating	Temperature: 50°F ~ 104°F(10°C ~ 40°C) Humidity: 10% to 80%, Non-condensing
Storage	Temperature: -4 °F ~113 °F(-20 °C ~ 45 °C) Humidity: 5% to 95%, Non-condensing

Plug and Play Capability

This monitor can be installed on any Plug & Play compatible system. The interaction of the monitor and the computer systems will provide the best operating conditions and monitor settings. In most cases, the monitor installation will proceed automatically, unless the user wishes to select alternate settings.

Dot Acceptable

TFT LCD panel manufactured by using advanced semiconductor technology with precision of 1ppm(one millionth) above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without uneasiness.

- For example, the number of TFT LCD sub pixels contained in this product are 3,888,000.

Note: Design and specifications are subject to change without prior notice.

Class B Equipment (Information Communication equipment for residential use)

This product complies with the Electromagnetic Compatibility Directives for residential use and can be used in all areas including common residential areas.
(Class B equipment emits less electromagnetic waves than Class A equipment.)

PowerSaver

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor into a low-power mode when it has not been used for a certain amount of time. The monitor automatically returns to normal operation when you press a key on the keyboard. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods. The PowerSaver system operates with a VESA DPMS compliant video card installed in your computer. Use the software utility installed on your computer to set up this feature.

State	Normal Operation	Power saving mode	Power off
Power Indicator	Green	Green, Blinking	Black
Power Consumption	Analog/Digital Less than 55 W	Analog/Digital Less than 2 W (Off-mode)	Less than 2 W (110Vac)

Preset Timing Modes

If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjust the screen as follows.

Table 1. Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC,1152 x870	68.681	75.062	100.000	-/-
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1280 X 960	60.000	60.000	108.00	+/+
VESA, 1280 X1024	63.981	60.020	108.00	+/+
VESA, 1280X1024	79.976	75.025	135.00	+/+
VESA, 1440 x 900	55.935	59.887	106.5	-/+

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle and the inverse number of the Horizontal Cycle is called the Horizontal Frequency. Unit: kHz

Vertical Frequency

Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called the Vertical Frequency or Refresh Rate. Unit: Hz

Countries	Israel Denmark Portugal Netherlands Austria Singapore Indonesia Australia	China North Korea Rumania	England South Africa Hongkong	Argentina Uruguay Paraguay	Brazil

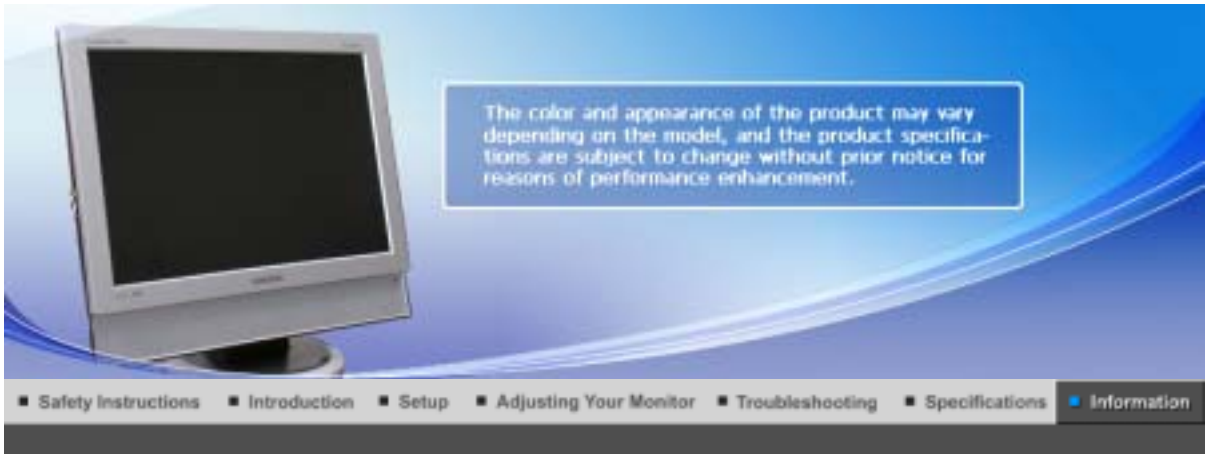
Broadcasting Systems	**SECAM**			
	SECAM-B	SECAM-D	SECAM-K_1	SECAM-L
Countries	Iran Iraq Saudi arabia Syria Lebanon Egypt	Russia Hungary Bulgaria Poland		France

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle and the inverse number of the Horizontal Cycle is called the Horizontal Frequency. Unit: kHz

Vertical Frequency

Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called the Vertical Frequency or Refresh Rate. Unit: Hz


The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.
Safety Instructions
Introduction
Setup
Adjusting Your Monitor
Troubleshooting
Specifications
Information

Contact SAMSUNG WORLDWIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

North America		
U.S.A	1-800-SAMSUNG (7267864)	http://www.samsung.com
CANADA	1-800-SAMSUNG (7267864)	http://www.samsung.com/ca
MEXICO	01-800-SAMSUNG (7267864)	http://www.samsung.com/mx

Latin America		
ARGENTINE	0800-333-3733	http://www.samsung.com/ar
BRAZIL	4004-0000	http://www.samsung.com/br
CHILE	800-726-7864 (SAMSUNG)	http://www.samsung.com/cl
COLOMBIA	01 8000 112 112	http://www.samsung.com/co
COSTA RICA	0-800-507-7267	http://www.samsung.com/latin
ECUADOR	1-800-10-7267	http://www.samsung.com/latin
EL SALVADOR	800-6225	http://www.samsung.com/latin
GUATEMALA	1-800-299-0013	http://www.samsung.com/latin
JAMAICA	1-800-234-7267	http://www.samsung.com/latin
PANAMA	800-7267	http://www.samsung.com/latin
PUERTO RICO	1-800-682-3180	http://www.samsung.com/latin
REP. DOMINICA	1-800-751-2676	http://www.samsung.com/latin
TRINIDAD & TOBAGO	1-800-7267-864	http://www.samsung.com/latin
VENEZUELA	1-800-100-5303	http://www.samsung.com/latin

Europe		
BELGIUM	02 201 2418	http://www.samsung.com/be

CZECH REPUBLIC	844 000 844	http://www.samsung.com/cz
DENMARK	38 322 887	http://www.samsung.com/dk
FINLAND	09 693 79 554	http://www.samsung.com/fi
FRANCE	08 25 08 65 65 (€ 0,15/min)	http://www.samsung.com/fr
GERMANY	01805 - 121213 (€ 0,12/Min)	http://www.samsung.de
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LUXEMBURG	02 261 03 710	http://www.samsung.lu
NETHERLANDS	0900 20 200 88 (€ 0.10/Min)	http://www.samsung.com/nl
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SLOVAKIA	0850 123 989	http://www.samsung.com/sk
SPAIN	902 10 11 30	http://www.samsung.com/es
SWEDEN	08 585 367 87	http://www.samsung.com/se
U.K	00870 SAMSUNG (7267864), 0818 717 100 (Republic of Ireland)	http://www.samsung.com/uk

CIS		
RUSSIA	8-800-200-0400	http://www.samsung.ru
UKRAINE	8-800-502-0000	http://www.samsung.com/ur

Asia Pacific		
AUSTRALIA	1300 362 603	http://www.samsung.com/au
CHINA	800-810-5858, 010- 6475 1880	http://www.samsung.com.cn
HONG KONG	2862 6001	http://www.samsung.com/hk
INDIA	3030 8282, 1800 1100 11	http://www.samsung.com/in
INDONESIA	0800-112-8888	http://www.samsung.com/id
JAPAN	0120-327-527	http://www.samsung.com/jp
MALAYSIA	1800-88-9999	http://www.samsung.com/my
PHILIPPINES	1800-10-SAMSUNG (7267864)	http://www.samsung.com/ph
SINGAPORE	1800-SAMSUNG (7267864)	http://www.samsung.com/sg
THAILAND	1800-29-3232, 02-689-3232	http://www.samsung.com/th
TAIWAN	0800-329-999	http://www.samsung.com/tw
VIETNAM	1 800 588 889	http://www.samsung.com/vn

Middle East & Africa		
SOUTH AFRICA	0860 7267864 (SAMSUNG)	http://www.samsung.com/za
U.A.E	800SAMSUNG (7267864)	http://www.samsung.com/mea

Terms

Sync Signal

Sync (Synchronized) Signals refer to the standard signals that are required to display desired colors on the monitor. They are divided into Vertical and Horizontal Sync Signals. These signals display normal color images by the set resolution and frequency.

Types of Sync Signals

Separate	This is a scheme of transmitting individual vertical and horizontal sync signals to the monitor.
Composite	This is a scheme of combining vertical and horizontal sync signals into one composite signal and transmitting it to the monitor. The monitor displays the color signals by separating the composite signal into original color signals.

Dot Pitch

The image on a monitor is composed of red, green and blue dots. The closer the dots, the higher the resolution. The distance between two dots of the same color is called the 'Dot Pitch'. Unit: mm

Vertical Frequency

The screen must be redrawn several times per second in order to create and display an image for the user. The frequency of this repetition per second is called the Vertical Frequency or Refresh Rate. Unit: Hz

Example: If the same light repeats itself 60 times per second, this is regarded as 60 Hz.

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle. The inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit: kHz

Interlace and Non-Interlace Methods

Showing the horizontal lines of the screen from the top to the bottom sequentially is called the Non-Interlace method while showing odd lines and then even lines in turn is called the Interlace method. The Non-Interlace method is used for the majority of monitors to ensure a clear image. The Interlace method is the same as that used in TVs.

Plug & Play

This is a function that provides the best quality screen for the user by allowing the computer and the monitor to exchange information automatically. This monitor follows the international standard VESA DDC for the Plug & Play function.

Resolution

The number of horizontal and vertical dots used to compose the screen image is called the 'resolution'. This number shows the accuracy of the display. A high resolution is good for performing multiple tasks as more image information can be shown on the screen.

Example: If the resolution is 1440 x 900, this means the screen is composed of 1440 horizontal dots (horizontal resolution) and 900 vertical lines (vertical resolution).

RF Cable

A round signal cable generally used for TV antennas.

Satellite Broadcasting

Broadcasting service provided via satellite. Enables high picture quality and clear sound throughout the country regardless of the location of the viewer.

Sound Balance

Balances the levels of the sound coming from each speaker in televisions with two speakers.

Cable TV

Whereas the terrestrial broadcasting is delivered via frequency signals through the air, cable broadcasting is transmitted via a cable network. In order to view cable TV, one must purchase a cable receiver and hook it up to the cable network.

CATV

"CATV" refers to the broadcasting service offered at hotels, schools and other buildings through their own broadcasting system, apart from VHF or UHF broadcasting by terrestrial broadcasters. The CATV programs may include movies, entertainment and educational programs. (Different from cable TV.)

CATV can be viewed only within the area in which the CATV service is offered.

S-Video
Short for "Super Video." S-Video allows up to 800 lines of horizontal resolution, enabling high-quality video.

VHF/UHF
VHF indicates TV channels 2 to 13, and UHF indicates channels 14 through 69.

Channel Fine Tuning
This feature allows the viewer to fine-tune the TV channel to obtain the best viewing conditions. The Samsung LCD TV has both automatic and manual channel fine-tuning features to enable the viewer to adjust their desired settings.

External Device Input
External device input refers to video input from such external video devices as VCRs, camcorders and DVD players, separate from a TV broadcast.

DVD
A type of digital disk technology that takes up only the benefits of CD and LD, to implement a high resolution/quality, which enables the user to enjoy clearer images.

DTV Broadcasting (Digital TV Broadcasting)
An enhanced broadcasting technology to process digital video signals using a set-top box, which implements a high resolution and clearer digital images on the screen.

LNA (Low Noise Amplifier)
This derives from artificial satellite technology that amplifies weak signals even in poor reception areas for sharper images.

Antenna Converter
A connection part that is used to link a Wide antenna cable (feeder cable) to the TV.

English Caption (= Caption Setting)
A kind of language selection feature that provides English subtitles (caption) or character information services from broadcasting services (ex: AFKN) or video tapes (marked CC), and which are especially useful for studying English.

Multiplex Broadcasting
This enables the user to enjoy the broadcasting service in both Korean and foreign (original) language as well as in stereo mode.

A2
This system uses two carriers to transmit voice data. Countries such as South Korea and Germany use this system.

BTSC
Broadcast Television System Committee
The stereo broadcasting system that is used in most of the countries that have adopted the NTSC system, including the United States, Canada, Chile, Venezuela and Taiwan. It also refers to the organization that has been organized to promote its development and management.

EIAJ
Electronic Industries Association of Japan.

For Better Display

1. Adjust the computer resolution and screen inection rate (refresh rate) on the computer as described below to enjoy the best picture quality. You can have an uneven picture quality on screen if the best picture quality is not provided for TFT-LCD.

- Resolution: 1440 x 900
- Vertical frequency (refresh rate): 60 Hz

2. TFT LCD panels manufactured by using advanced semiconductor technology with a precision of 1ppm (one millionth) and above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without any problems.

    - For example, the number of TFT LCD sub pixels contained in this product are 3,888,000.

3. When cleaning the monitor and the panel outside, please apply the recommended small amount of cleaner by using a soft cloth to polish. Do not force the LCD area but rub softly.
   If excessive force is applied, you may stain it.

4. If you are not satisfied with the quality of picture, you can get better quality of picture by executing "auto adjustment function" in display screen that is appeared as window termination button is pressed.
   If there's still noise after the automatic adjustment, use the FINE/COARSE adjustment function.

5. When viewing a fixed screen for an extended period of time, residual image or blurriness may appear. Change the mode to energy saving mode or set a screensaver to a changing picture when away from the monitor for an extended period of time.

6. Do not display a still image(such as on a video game or when hooking up a DVD to this LCD_TV) on the Color TFT-LCD (Thin Film Transister Liquid Crystal Display) panel for a long time as it can cause screen image retention. This image retention is also known as "screen burn". To avoid such image retention, reduce the degree of brightness and contrast of this screen when displaying a still image.

Authority

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MÉXICO

IMPORTADO POR: SAMSUNG ELECTRONICS MÉXICO. S.A. de C.V.
Vía Lopez Portillo No. 6, Col. San Fco. Chilpan
Tultitlán, Estado de México, C.P. 54940
Tel: 01-55-5747-5100 / 01-800-726-7864

EXPORTADO POR: Samsung Electronics CO.,LTD.
416, Mae tan-3dong, Yeongtong - gu,
Suwon City, Gyeonggi-do Korea

PRODUCT INFORMATION (Image Retention Free)

LCD Monitors and TVs may have image retention when switching from one image to another especially after displaying a stationary image for a long time.
This guide is to demonstrate correct usage of LCD products in order to protect them from Image retention.

- **Warranty**
  Warranty does not cover any damage caused by image retention.
  Burn-in is not covered by the warranty.

- **What is Image retention ?**
  During normal operation of a LCD panel, pixel image retention doesn't occur. However, if the same image is displayed for a long time, a slight difference in electric charge accumulates between the two electrodes which encase the liquid crystal. This may cause the liquid crystal to build up in a certain areas of the display. Thus, the previous image is retained when switching to a new video image. All display products, including LCD,are subject to image retention. This is not a product defect.

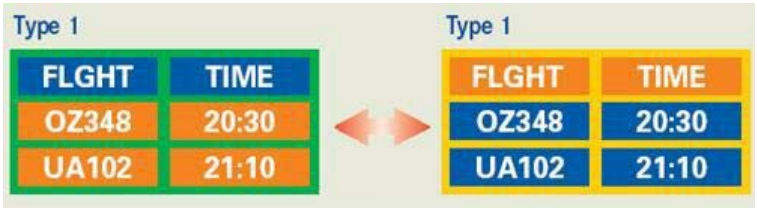
  Please follow the suggestions below to protect your LCD from image retention

- **Power Off, Screen Saver, or Power Save Mode**
  Ex)
  - Turn the power off when using a stationary pattern.
    - Turn the power off for 4 hours after 24 hours in use
    - Turn the power off for 2 hours after 12 hours in use
  - Use a Screen saver if possible
    - Screen saver in one color or a moving image is recommended.
  - Set the Monitor to power off with the PC Display Properties Power Scheme.

- **Suggestions for specific applications**
  Ex) Airports, Transit Stations, Stock Markets, Banks, and Controlling Systems
  We recommend that you follow set up of your display system program as below:

- **Display Information together with Logo or Moving image cycle.**
  Ex) Cycle : Display Information for 1 hour followed by a
  Display Logo or moving image for 1 minute.

- **Change the Color Information periodically (Use 2 different colors).**
  Ex) Rotate the Color Information with 2 colors every 30 minutes.



Avoid using a combination of characters and background color with large difference in luminance.
Avoid using Grey colors, which can cause Image retention easily.

- Avoid: Colors with big difference in luminance (Black & White, Grey)

Ex)

- Recommended settings: Bright colors with little difference in luminance

- Change the characters color and background color every 30 minutes

Ex)

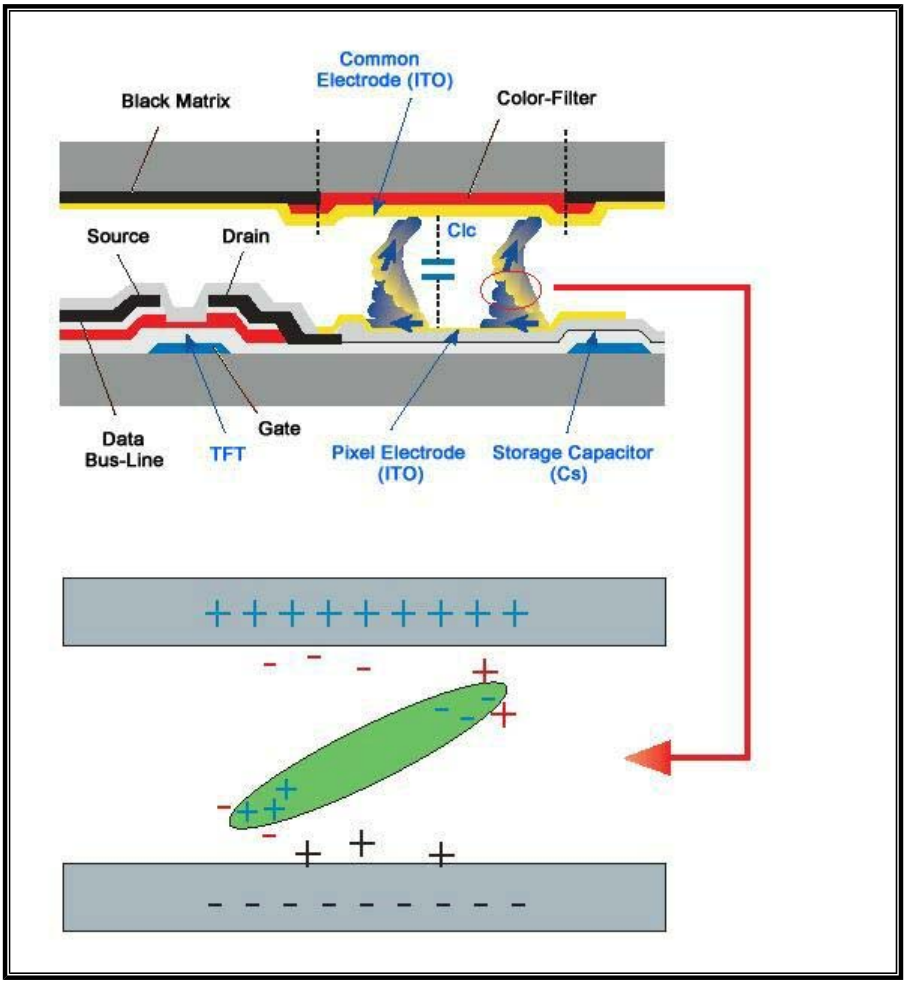
- Every 30 minutes, change the characters with movement.

Ex)

- **The best way to protect your monitor from Image retention is to set your PC or System to operate a Screen Saver program when you are not using it.**

  Image retention may not occur when a LCD panel is operated under normal conditions.

  Normal conditions are defined as continuously changing video patterns. When the LCD panel is operated for a long time with a fixed pattern (-over 12 hours-), there may be slight difference in voltage between electrodes that work the liquid crystal (LC) in a pixel. The voltage difference between electrodes increases with time, forcing the liquid crystal to lean. When this occurs, the previous image may be seen when the pattern is changed.
  To prevent this, the accumulated voltage difference must be decreased.



- Our LCD Monitor satisfies ISO13406-2 Pixel fault Class II

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment) - Europe only

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.